temperature, then we also find cases of pneumonia as well as when a small and gradual rise of temperature accompanies a strong and sudden rise of humidity.

Vice versa: If a sudden and strong fall in the temperature is noted while the humidity remains stationary and above the percentage, we also find cases of pneumonia, but this phenomenon is of rare occurrence.

As the falling of the barometer is coincident with a rise of humidity, it will be unnecessary to say more about them separately.

In those of the 600 cases in which no increase of humidity was found (5-6 per cent.), a greater velocity of the prevailing wind, together with a falling of the barometer, was found.

If a *strong wind* accompanies a *high*, a *rising*, or a *long lasting high* percentage of *humidity*, together with a *low* or (still better) a *falling* thermometer, then the frequency of pneumonia will be found astonishing. Northerly winds, as mentioned before, seem to be of the most influence in this direction.

The final result of this paper may be put into the following form:—

1. The origin of croupous pneumonia is, without doubt, very favourably influenced by certain weather.

2. It is principally the sudden appearance and the long prevalence of cold-moist atmosphere which exercises this influence. That this result coincides remarkably with the latest researches regarding the physiological and pathological influence of cold-moist air on the respiratory tract, is sufficiently known, and therefore only needs to be hinted at.

ARTICLE X.

ACRANIA MONSTERS; WITH REPORT OF A CASE. By EMIL MAYER, M.D., Assistant Surgeon to the New York Eye and Ear Infirmary.

THE comparatively rare occurrence of this form of monstrosity, and the still more infrequent opportunity of post-mortem examination of them when they do present, makes the following case of interest:—

CASE.—I was called on the morning of April 27th to visit Mrs. S., who was in labour at term. Arrived at 10.30 A. M.; found the os thoroughly dilated, pains forcible but infrequent, and membranes at vaginal orifice. The presentation was believed to be breech, as two eminences were felt, the finger entered a cavity and none of the outlines of the face were felt on the surface. The membranes were ruptured; ʒss ext. ergot. fluid. given, and in a short time the head presented. There was something peculiar felt about this; the patient was sufficiently exposed to examine it, revealing an acrania monster with a brain-like tumour, in place of the cranium, which had two rounded prominences posteriorly, between which, but situated deeper, was the rent the finger had made, and which extended into the cavity of the skull. It was a left occipito-anterior presentation. The head lay for about ten minutes outside of the vaginal orifice, and no progress seemed to be made, although the pains were vigorous. The shoulders and rest of the child were then delivered at 11.15 A. M., but not until the finger was hooked under the shoulder-joint and the patient thus aided. Duration of labour, three and a half hours. Secundines soon followed.

The child was born dead, and was of a perfectly natural colour. Attempts to resuscitate failed. It had evidently not been dead long, as the mother had felt its movements two hours before the beginning of labour, and they were extraordinarily violent and prolonged, enough to call the attention of the husband to it. This is a point of interest, as will be seen later on.

Fig. 1.

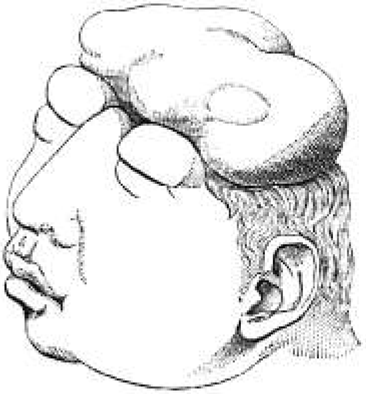
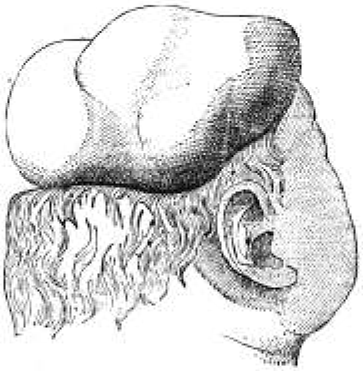


Fig. 2.



Post-mortem twenty-seven hours after birth. Body well developed and very large; the lungs were not inflated, and the other organs of thoracic and abdominal cavity appeared healthy. The head (Fig. 1) was small compared with the body. The face had an idiotic expression, which was made quite hideous by the bulging of both upper eyelids (frog's-lids). The nose was long and flat, the lips thick and separated. The right ear was fully developed and lying with its lobe on a line with the nostril. The left ear was flat, and its lobe was on a line with the mouth as in the diagram. The auditory canals were both normal. Lying directly above the upper lids, the superior portion of the nose, and extending over the whole of the upper surface of the head to the occipital protuberance posteriorly, lay the brain-like tumour, covered by membranes which ran into the hairy scalp on its borders. Anteriorly there were two prominences, one over each eye. Posteriorly (Fig. 2) were the rounded prominences mentioned, with the cavity which bore evidences of being recently made, and a thick, heavy, and short neck. The facial angle was about sixty degrees. The following measurements were taken:—

Occipito mental	5½	inches.
“ frontal	5	“
Bi-parietal (its equivalent)	5	“
Sub-occipito mental	8½	“
Circumference of brain	9¾	“

The tumour was about an inch higher than if the cranial bones had been present. The head was placed in stronger alcohol and an incision made (after two weeks) in the median line, from the superior portion of the nose to the base of the occiput, and the bones sawed through to the face with a view to preserve the specimen as nearly intact as possible. On incising the growth on the head an appreciable quantity of fluid spurted out, and posteriorly the incision revealed a dense layer of adipose tissue under the scalp. There was absence of the whole of the frontal bone, except the orbital and nasal portions, the squamous portion of the temporal bones, both parietal bones, and all of the portion of the occipital bone above the protuberance. The tumour presents on incision a number of large cavities, separated from each other by walls of hard tissue, occupying the entire position which the cerebrum and cerebellum would naturally be in. The medulla seemed to be the only perfect portion of nerve substance present. The covering of the tumour was composed of two dense membranes. Numerous sections from various portions of the walls of the cysts were made and examined microscopically, showing nothing but blood corpuscles and connective tissue. No gray cells nor evidences of brain substance were present.

The literature of these monstrosities is scant. Vrolik[1] cites a case similar to the one above, and which, he says, may be called hernia cerebri, acrania, acephalia spuria, microcephalia, hemicephalia, or ancephalia.

Purple[2] reports a case of acrania, in a female child, in which "there was nothing above a point level with the base of the cranium, and this was covered by a thin, smooth membrane, having the appearance of thickened arachnoid or dura mater." The child lived a short time. No post-mortem. Eight other cases are cited in the same article, one of which has some similarity with the present one, that of Mr. Burrows (*Med.-Chir. Trans.*, 1813), as follows: "Head of child appeared very remarkably deformed. The whole of forehead, summit, and a great part of the occiput and brain were deficient, and in lieu of them a substance projected of a light mulberry colour. From the deficiency of bone the eyes appeared to project more than usual. It lived six days, during which it took no sustenance." Förster[3] cites a case in which there was absence of skull from the root of nose to the middle of occiput. "The space is covered by a brain-like body which is divided into two parts, resembling hemispheres, rounded posteriorly, and running anteriorly somewhat to a point. Each of these hemispheres is incompletely divided by deep furrows, into several lobes. This body is covered by a membrane, which on its borders runs into the hairy scalp."

Clippinger[4] reports the case of an anencephalus monster. "Child never respired; auditory canal perfect; pinna of ear unusually small and deformed. There was a serous membrane with a well-marked cicatrix near its centre, that lay on the base of the cranium."

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[1] De vrucht van den Mensch en van den Zoogdieren, 1849.

[2] New York Journal of Medicine, 1850.

[3] Missbildungen des Menschen, 1861.

[4] Medical and Surgical Reporter, Philadelphia, 1879.

The cause of monstrosities is not a very certain one; among those given are: Influence of parents, as primary disease of semen or ova (faulty development); disease of parents (this is mainly maternal, as women have been known to give birth to monstrosities where there were different husbands); among these are faulty development of ovary, Graafian vesicle, alterations in the tubes, uterus, etc.; also those diseases which disturb the component parts of the blood or the circulation in general, the pelvic and uterine in particular. Psychical, as fright or excitement, and the very doubtful one of mis-seeing. Twins pressing one on the other, the tying of the cord around any one part, are also among the causes given.

Purple (*loc. cit.*) suggests that this tumour is the result of arrested development of the vascular system, which in the normal still supplies the brain and fills the subarachnoid space.

Geddings (Purple, *loc. cit.*) believes it to be dependent upon arrest of development affecting the brain and its osseous coverings.

Vrolik (Purple, *loc. cit.*) states that from some of its forms it is clear that a hydrocephalus existed, followed by disruption. In support of this he says that he has a fœtus of two months, in which the superior part of the skull is wanting, and in which a spongy mass occupies the place of the brain.

Förster (*op. cit.*) says: "A fœtus is as capable of being diseased before as it is after birth. After the fourth month such diseases as inflammation, hypertrophy, atrophy, etc., may occur. These are the congenital troubles. Diseases occurring in embryonic life (to the end of third month) are the causes of monstrosities." He believes that the latter occur *during* the formation of parts, and not afterwards. "Examination of acrania show that in early embryonic life an abnormal serous exudation or dropsy is present."

From these remarks of Förster and of Vrolik, we can readily assume that there was in this case a condition of subarachnoid hydrocephalus in embryonic life, and that the bony structures were prevented from being developed by its presence. This seems to be the only explainable cause, as the woman is perfectly healthy, and has given birth to three healthy children. There was nothing peculiar about her pregnancy, save that she vomited much more than with the others, and had frequent pains in the right iliac fossa. The movements were vigorous, and were felt about five months before delivery.

That these monsters may live for a time is shown by the fact that nearly all of the cases reported by Purple lived a short time, one of them living six days without taking sustenance. Granted that in this case the child had sufficient medulla oblongata to enable the pneumogastric to do its work, the question of interest arises, what caused the death of the fœtus? Was it caused by the pressure upon the tumour during labour, or did the finger which entered into the substance of the growth press upon a vital part, or, what is more likely, was not that prolonged movement which excited the attention of the husband, two feet away, an intra-uterine convulsion caused by the engaging of the head at the internal os, and consequent pressure upon it?

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ARTICLE XI.

HEART-CLOT AS A FATAL COMPLICATION IN THE ACUTE FEVERS OF CHILDHOOD.

By JOHN M. KEATING, M.D., Lecturer on Diseases of Children in the University of Pennsylvania, etc.

AT a meeting of the Philadelphia Obstetrical Society, held June 3, 1880, I had the honour of exhibiting some specimens of the thoracic viscera taken from children who died of measles during an exceedingly severe epidemic at the Philadelphia Hospital. At that time I called attention to the value of studying the condition of the heart in such cases, its bearing upon treatment, showing that a fatal tendency lay in the frequency of heart-clot. In fact, in one case a fatal result was brought about by the pressure exerted upon the right pneumogastric trunk, which was squeezed between a dense catarrhal consolidated apex of the lung, and a large indurated bronchial gland, causing irritation of the nerve, slowing of the heart's action, and the formation of a large and firm right-sided heart-clot.

It has been the experience of most practitioners whose practice has brought them in contact with the acute fevers of childhood, especially scarlet fever and diphtheria, that a frequent cause of death is heart-clot, or, in other words, that such patients are prone to fibrinous coagulations, either in the form of embolism or thrombosis, which may be an immediate or remote cause of death. In the epidemic of measles referred to, it was found that this disease not only deserved a place in this consideration, but that this was its most frequent fatal complication; particularly was this due to the pulmonary engorgement which was apt to complicate the attack either in the form of a simple extensive bronchitis, a croupous pneumonia, or that of the catarrhal variety with the resulting vesicular collapse. In fact, it may be regarded as a rule that in a patient whose blood has a tendency to clot as soon as the circulation is somewhat retarded, anything that will interfere with the normal rapid passage of the current must be looked upon as a most serious complication.

Dr. J. Lewis Smith tells us that thrombosis of the cranial sinuses has been known to result from clonic convulsion, as the cough of pertussis, "since both the cough and convulsions retard the flow of blood in the